

Date: Sat, 5 Feb 94 04:30:19 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V94 #24
To: Ham-Ant

Ham-Ant Digest Sat, 5 Feb 94 Volume 94 : Issue 24

Today's Topics:

 Effective Raditated Power? (2 msgs)
 Quad design software available? (2 msgs)
 Very Small Loop Antenna Modeling

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 4 Feb 1994 18:09:19 GMT
From: fluke!chuckb@beaver.cs.washington.edu
Subject: Effective Raditated Power?
To: ham-ant@ucsd.edu

In article <2ipbbbINNq2u@news.d.umn.edu> tstein@monolith.d.umn.edu (Tom Stein)
writes:

>I have a quick question:

>

>Say I have 40 watts coming out of the back of my radio. My feedline is
>1.4dB per 100 ft. I have 100 feet of feedline... Then my antenna, a 11 el.
>beam has 11dB gain on it. Can someone tell me what the effective radiated
>power of my system would be? And a formula would help....

>

>Tom Stein (N0UJK)

>

>(Please post only, I do not have e-mail access.)

>

>Thanks!

>

Let's assume the net gain of the system is 9 dB. You are going up 3 dB 3 times, doubling your power each time. I wouldn't worry about the .6 dB we have left out, because the antenna manufacturer's specs are probably at least +/- 1 dB.

This gives you an ERP of $40 \times 2 \times 2 \times 2 = 320$ watts.

--

Chuck Bowden / WB7R / chuckb@tc.fluke.com / (206) 356-6228
Fluke Corporation / MS 232E / PO Box 9090 / Everett WA 98206-9090

Date: 3 Feb 94 14:34:04 -0700
From: library.ucla.edu!europa.eng.gtefsd.com!news.msfc.nasa.gov!
sol.ctr.columbia.edu!hamblin.math.byu.edu!yvax.byu.edu!harrisr.byu.edu!
user@network.ucsd.edu
Subject: Effective Raditated Power?
To: ham-ant@ucsd.edu

In article <2ipbbbINNq2u@news.d.umn.edu>, tstein@monolith.d.umn.edu (Tom Stein) wrote:

> Say I have 40 watts coming out of the back of my radio. My feedline is
> 1.4dB per 100 ft. I have 100 feet of feedline... Then my antenna, a 11 el.
> beam has 11dB gain on it. Can someone tell me what the effective radiated
> power of my system would be? And a formula would help....
>

The formula for calculating dB Power is as follows:

$\text{dB} = 10\log(\text{Radiated Power}/\text{Reference Power})$

To calculate Radiated Power you would use the following formula:

$\text{Radiated Power} = \text{Reference Power} \times 10^{(\text{dB}/10)}$

In your example your gain is 9.6 dB (ie 11-1.4)
your Reference Power is 40 watts

=> $\text{Radiated Power} = 40 \times 10^{(9.6/10)} = 40 \times 9.1201 = 364.80$ watts

I'm currently investigating becoming an amateur radio operator. I know very little about this hobby but I do believe that my math is correct.

Regards,

Richard Harris
HarrisR@yvox.byu.edu

Date: 4 Feb 94 14:40:46 GMT
From: news-mail-gateway@ucsd.edu
Subject: Quad design software available?
To: ham-ant@ucsd.edu

I am looking for software that runs under ms/dos that can be used to optimize the design parameters of a 20 meter Cubical Quad ant. The software I've seen around on BBS's such as Yagimax apply only to Yagi designs. Shareware is preferred which I can grab from an FTP/Anonymous site as I need something for a meeting soon, but any info is appreciated. Thanks ..
John - VE4ZP- laportej@wl.aecl.ca

Date: Fri, 4 Feb 1994 16:00:26 GMT
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!sdd.hp.com!hpscit.sc.hp.com!cupnews0.cup.hp.com!jholly@network.ucsd.edu
Subject: Quad design software available?
To: ham-ant@ucsd.edu

LAPORTEJ@wl.aecl.CA wrote:
: I am looking for software that runs under ms/dos that can be used to
: optimize the design parameters of a 20 meter Cubical Quad ant.
: The software I've seen around on BBS's such as Yagimax apply only to
: Yagi designs. Shareware is preferred which I can grab from an FTP/Anonymous
: site as I need something for a meeting soon, but any info is appreciated.
: Thanks ..
: John - VE4ZP- laportej@wl.aecl.ca

Since you want to spend time instead of money, mininec3 is available via ftp. It should be on just about any simtel mirror. If on the other hand you wish to part with some money I would suggest ELNEC by W7EL. It is mininec, but in a very nice to use package and runs on ms/dos, both with and without a coprocessor. Oh, forgot to mention the executables for mininec3 are intended to be used with a coproc...but of course you could recompile the source.

Good Luck,
Jim Hollenback, WA6SDM
jholly@cup.hp.com

Date: Fri, 4 Feb 1994 14:25:43 GMT
From: ftpbox!mothost!pts-nntp!mcc74!murp_ch@uunet.uu.net
Subject: Very Small Loop Antenna Modeling
To: ham-ant@ucsd.edu

I am designing a VHF loop antenna, that has very limited dimensions ($< 1 \times 0.3$ inches). I would appreciate any comments on small loop antenna modeling software.

Thanks

End of Ham-Ant Digest V94 #24
